UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/465,338 | 12/17/1999 | Kenneth S. Albert | PT-1817 | 8786 |

23607 7590 04/21/2005

IVOR M. HUGHES, BARRISTER & SOLICITOR,
PATENT & TRADEMARK AGENTS
175 COMMERCE VALLEY DRIVE WEST
SUITE 200
THORNHILL, ON L3T 7P6
CANADA

| EXAMINER | |
|---|---|
| TRAN, SUSAN T | |
| **ART UNIT** | **PAPER NUMBER** |
| 1615 | |

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/465,338 | ALBERT ET AL. | |
| | Examiner | Art Unit | |
| | Susan T. Tran | 1615 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *26 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-114* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) *48,49 and 60* is/are allowed.

6)☒ Claim(s) *1-47,50-59 and 61-114* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

RD

## DETAILED ACTION

Receipt is acknowledged of applicant's Power of Attorney filed 02/23/05, Preliminary Amendment filed 01/22/05, Request for Continued Examination, and Request for Extension of Time filed 01/26/05.

### *Continued Examination Under 37 CFR 1.114*

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/26/05 has been entered.

### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-110 are provisionally rejected under the judicially created doctrine of double patenting over claims 1-66, 110, 112-119 and 122-132 of copending Application No. 09/567,451. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows:

Both applications disclose controlled release Galenical p-reparation of pharmaceutically acceptable form of Diltiazem, suitable for evening dosing every 24 hours, comprising at least one bead comprising a core and at least one coating, with from about 120 mg to about 540 mg of active in the core, and wherein the coating comprises a hydrophilic polymer and/ or a lubricant, and a water insoluble polymer. Both Applications also claim a method of using the composition to treat a patient's hypertension and/ or angina. For these reasons, the two applications overlap in subject matter and necessitate a terminal disclaimer.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-47, 50-59 and 61-114 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geoghegan et al. (EP 0 856 313).

Geoghegan teaches a controlled absorption diltiazem pellet formulation for oral administration to control hypertension and angina comprising a core of diltiazem or a pharmaceutically acceptable salt thereof, and a multilayer membrane surrounding the core and containing both a water insoluble and a water soluble polymer (abstract). Geoghegan further teaches that the formulation is preferred as a once-daily product to be administered before bedtime, and to be released at the following rates:

a. from 0 to 35% after 2 hours

b. from 4 to 45% after 4 hours

c. from 30 to 75% after 8 hours

d. from 60 to 95% after 13 hours

e. not less than 85% after 24 hours.

These release rates overlap those claimed by applicant in the instant application. Further, Geoghegan teaches that the water insoluble polymer can be replaced by a copolymer of acrylic and methacrylic acid esters (p 28, claim 10), and that the water-soluble polymer can be I-IPMC (p 28, claim 7). Geoghegan also teaches that the core

may comprise an organic acid, a lubricant (p 5, l 15-29), and other pharmaceutically acceptable components. In addition, throughout the examples, Geoghegan teaches varying amounts of active ingredient, including 120, 240, and 90 mg. Further, Geoghegan teaches tablet, pellet, and capsule formulations (examples. 8, 14, 2 1). Although Geoghegan does not disclose the exact release rates claimed by applicant, the ranges claimed fall within the range disclosed by Geoghegan, and therefore anticipated by the reference.

The reference teaches the use of a core and a coating, wherein the membrane coatings can comprise water-soluble and water insoluble polymers. This directly reads on Applicant's claims.

Geoghegan does not expressly teach all of the specific amounts of diltiazem present in the formulation, nor do they teach the specific wetting agent claimed by applicant. However, the formulation disclosed in Geoghegan does teach a varied range of the amount of active ingredient, as well as the presence of additional additives, such as lubricants. Further, the formulation also releases the drug at the same rate as that claimed by applicant, therefore, it appears that these limitations do not render any unexpected results. It is the position of the examiner that these are limitations which would be routinely determined by one of ordinary skill through minimal experimentation, as being suitable, absent the presentation of some unusual and/or unexpected results. The results must be based on the specific limitations.

Furthermore, it is the position of the examiner that Geoghegan teaches the generic concept of the invention, as well as the suggestion to manipulate the

formulation to result in varying dissolution rates and Cmax values. One of ordinary skill in the art would have been motivated to manipulate the formulation based on the specifics of the desired formulation. The expected result would be a successful pharmaceutical formulation. Therefore, this invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made.

Claims 1-47, 50-59, 61, 62 and 111-114 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deboeck et al. (WO 93/00093).

Deboeck teaches an extended release galenical form of diltiazem or a pharmaceutically acceptable salt, with a wetting agent, coated with a microporous membrane comprising at least a water soluble polymer and a water soluble polymer and a pharmaceutically acceptable adjuvant. Deboeck further teaches that the composition comprises beads containing between 120 and 480 mg of the active ingredient, with the wetting agent, and the beads are coated with the microporous membrane (p 19, claim 1). Deboeck further teaches that the water-soluble polymer or copolymer can include HPMC and Eudragit (p 8, 1 2 1-28). Further, Deboeck teaches that the following ingredients are included in the formulation: wetting agents such as fatty acid esters of saccharose (2-20%), microcrystalline cellulose (5-25%), polyvinylpyrrolidone (1-15%) titanium oxide, surfactants such as tween, antifoaming agents, magnesium stearate, and talc (see pages 8-10). These are the ingredients disclosed by applicant as being present in the formulation. Deboeck also teaches that the formulation is for once daily administration.

Deboeck does not teach the exact rates of release as claimed by applicant, nor do they discuss the rates of release after 8 hours, nor do they disclose all of the specific amounts of the above-mentioned ingredients. However, Deboeck does teach overlapping rates of release to those claimed by applicant, and they do teach the same ingredients as claimed by applicant. It is the position of the examiner that the present application is not patentably distinct from Deboeck , as they contain the same ingredients, in the same formulation, with overlapping rates of release, even thought Deboeck does not disclose the specific amounts of all the ingredients. It is the position of the examiner that the specific amounts of those ingredients which are not disclosed in Deboeck are limitations which would be routinely determined by one of ordinary skill in the art through minimal experimentation, absent the presentation of some unusual and/or unexpected results. The results must be those that accrue from the specific limitations. Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to create a controlled release formulation of diltiazem, based on the teachings of Deboeck, and experiment with and vary the specific amounts of the ingredients, in order to achieve the desired rate of release.

Claims 1-47, 50-59 and 61-114 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hendrickson et al. US 5,286,497.

Hendrickson teaches a diltiazem formulation suitable for one a day administration comprises blend of diltiazem beads having two differing dissolution profiles, rapid release and delayed release (see abstract, column 3, lines 59 through column 4, lines

1-34). The beads comprise central core contains the diltiazem or pharmaceutically acceptable salt thereof in association with excipients, such as binding agent, anti-caking agent, acidifying agent, lubricant, and other additives (see columns 4-5). For the delayed release beads, the central core is coated with polymeric coating (columns 6-7). The blended beads may be formulated into capsule or tablet dosage (column 8, lines 60-65).

Hendrickson does not explicitly teach the use of neutral copolymer in the coating. However, Barry teaches a sustained release formulation of diltiazem comprising granule containing diltiazem core, and a coating contains neutral copolymer (see abstract, columns 3, 7, and claim 1). Thus, it would have been obvious for one of ordinary skill in the art to modify the diltiazem formulation of Hendrickson using the neutral copolymer in the coating in view of the teachings of Barry, because both references teach the advantageous results in the use of delayed release granule, *e.g.*, a diltiazem formulation that will optimize blood levels of diltiazem over a 24 hour period (see Hendrickson at columns 2-3), and a diltiazem formulation that provides sustained release over a period of 24 hours (Barry, at column 6, lines 1-10). The expected result would be a successful controlled release pharmaceutical formulation.

***Allowable Claims***

Claims 48, 49 and 60 are allowable.

***Response to Arguments***

It is noted that there is no arguments in the Request for Continued Examination dated 01/26/05. According to the interview summary dated 02/23/05, applicant may abandon this application in favor of the copending application 09/567,451.

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan T. Tran whose telephone number is (571) 272-0606. The examiner can normally be reached on Monday through Thursday 6:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K. Page can be reached on (571) 272-0602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. Tran
Patent Examiner
AU 1615